STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of: The Application for Certification of the CHEVRON RICHMOND POWER PLANT REPLACEMENT PROJECT	Docket No. 07-SPPE-1

CONTRA COSTA BUILDING AND CONSTRUCTION TRADES COUNCIL DATA REQUESTS – SET ONE

September 25, 2007

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Attorneys for the
CONTRA COSTA BUILDING AND
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The following requests are submitted by the Contra Costa Building and Construction Trades Council. Please provide your responses within 30 days to the following people:

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Please identify the person who prepared your responses to each data request. If you have any questions concerning the meaning of any data request, please let us know.

1. PROJECT DESCRIPTION: The Hydrogen Renewal Project

Background:

The Power Plant Replacement Project ("PPRP") is related to Chevron's Hydrogen Renewal Project ("Project"). Your application describes the PPRP as a "subset of the larger Renewal Project, specifically the [power plant replacement project] is a subset of the Hydrogen Plant and the Power Plant Replacement Projects." *See, e.g.*, *Chevron's Application for a Small Power Plant Exemption*, ("Ap.") p. 8.1-18,19. As is clear from the Project description, the steam turbine generator ("STG") is physically part of the Hydrogen Plant.

Data Request:

1.a. Please determine whether the PPRP and Project are a single project for purposes of review under the California Environmental Quality Act ("CEQA"). If not, please explain why they are not a single project.

2. PROJECT DESCRIPTION: Steam Production

Background:

The PPRP consists of two components that combined will produce 60 MW: (1) a new 43-MW GE Frame 6B combustion turbine that will exhaust to a heat recovery steam generator ("HRSG") equipped with duct burners to produce up to 430,000 lb/hr of steam and (2) a new hydrogen plant steam turbine (H2-STG). Ap. 2-1/2-1. The SPPE Application does not disclose the destination of the increase in steam produced by the HRSG, beyond the summary statement that it is delivered to the refinery steam system at 850 psig. Ap., p. 2-3. Additionally, in or about March of 2006, Chevron added a 28 MW (capacity) automatic extraction, backpressure steam turbine to its refinery. Please provide the following information to clarify the destination of the increase in steam production from the PPRP:

Data Requests:

2.a. Identify the source of the steam that will be used to drive the new steam turbine H2-STG;

2.b. Will any of the steam that is used in H2-STG come from the new HRSG? If yes, please identify the amount of steam in lbs/hr and as a percentage of the total steam demand of H2-STG;

2.c. Please provide a table that shows the destination of the steam produced by the new HRSG, including the amount of steam in lbs/hr used at each destination;

2.d. Will any of the steam produced by the new HRSG be used to operate the turbo steam turbine replacement project? If yes, please provide the amount of such use, expressed in both lbs/hr and as a percentage of the total steam demand of the turbo steam turbine replacement project.

3. PROJECT DESCRIPTION: Electricity Use

Background:

The Project would increase the amount of electricity produced at the Chevron Refinery by 60 MW. Some of this electricity will be used to support the Chevron Renewal Project, of which the PPRP is a component.

Data Request:

3.a. Please identify all subsystems that will receive electricity from the Project.

4. PROJECT DESCRIPTION: Fuel Use

Background:

The Project description is ambiguous as to which fuel(s) will be used to operate the various components of the PPRP. First, the Application states that the HRSG duct burner will burn natural gas, medium-Btu gas, or LPG and refinery fuel gas. Ap. 2-2. Later, the Application states that the combustion turbine will burn natural gas, medium Btu gas, or vaporized LPG and the HRSG duct burner will burn refinery fuel gas. Ap., p. 2-12.

Data Requests:

4.a. Please clarify which fuel will be burned in each emission source;

4.b. Please explain why the use of natural gas, medium Btu gas, or LPG is not feasible and does not constitute BACT for the duct burners;

4.c. Please provide chemical composition data, including fuel sulfur content, hydrocarbon distribution data and heat content, for each proposed fuel.

5. PROJECT DESCRIPTION: Steam Production

Background:

The PPRP proposes to use a 190 MMBtu/hr duct burner to generate additional steam. A duct burner may not be the most efficient method to produce steam.

Data Request:

5.a. Please evaluate the use of a conventional boiler and a combined-cycle combustion turbine to generate the additional steam (or electricity depending upon the end use of steam). The analysis should address CO2 and criteria pollutant emissions.

6. PROJECT DESCRIPTION: Design Specifications

Background:

The design basis of the PPRP's components and the Renewal Project that it will serve will ultimately determine the emissions from the Project. Please provide the following design specifications:

Data Requests:

6.a. the design sulfur content of the

6.a.i. natural gas that is proposed to be burned in the HRSG duct burner;

6.a.ii. medium-Btu gas that that is proposed to be burned in the HRSG duct burner;

6.a.iii. LPG that that is proposed to be burned in the HRSG duct burner; and

6.a.iv. refinery fuel that is proposed to be burned in the HRSG duct burner

6.b. the design firing rate of the gas turbine and HRSG duct burner;

6.c. the maximum firing rate of the gas turbine and HRSG duct burner;

6.d. vendor guarantees for all criteria pollutant emissions from the duct burner;

6.e. vendor guarantees for all criteria pollutant emissions from the gas turbine;

6.f. vendor guarantee for CO and VOC emissions from the oxidation catalyst;

6.g. vendor guarantee for NOx emissions from the SCR;

6.h. vendor guarantee for the drift efficiency of the cooling tower;

6.i. the design crude slate of the existing and modified refinery, including sulfur content and API gravity.

7. AIR QUALITY: PSD

Background:

The Application states that the PPRP alone would exceed Prevention of Significant Deterioration ("PSD") significant emission rate ("SER") thresholds for a major modification, but that the "overall net increase of the Renewal Project is below the PSD SER criteria for regulated pollutants." Ap. p. 8.1-32.

Data Requests:

7.a. Please identify the pollutants that would exceed the SER thresholds.

7.b. Please provide calculations that support the claim that the overall net increase in emissions would not exceed PSD significance thresholds for all pollutants for which a SER exists. Please support your calculations by identifying all underlying assumptions and provide your calculations in native format in an Excel spreadsheet.

7.c. PSD significance thresholds exist for sulfuric acid mist, reduced sulfur compounds, and hydrogen sulfide. The PPRP combined

with the Renewal Project that it would serve would increase emissions of these substances. The Application does not contain any emission estimates for these pollutants. Please estimate hydrogen sulfide, reduced sulfur compounds, and sulfuric acid mist emissions from the PPRP as well as the related Renewal Project. Your estimate should include fugitive emissions from pumps, compressors, valves, and connectors.

8. AIR QUALITY: Assumed Emission Reductions

Background:

The facility will replace existing boiler No.1, which is approaching the end of its life. Ap., p. 8.1-1/2. The baseline emissions from this existing boiler plus any other equipment that is being shutdown and for which emission reductions are assumed should be provided.

Data Requests:

8.a. For existing boiler No. 1, please identify the design firing rate, the heat input to the boiler for each of the past 10 years, and all emissions data, including CEMS data and stack test data, for the past 10 years.

8.b. Please provide data equivalent to the requested in subpart (a) for any other source that would be shutdown and for which you are claiming emission reductions.

9. AIR QUALITY: Operational Emission Estimates

Background:

The Application reports operational emissions for two modes: (1) steady-state operation, and (2) startup and shutdown. These emissions are based on "vendor data and engineering estimates." Ap., pp. 8.1-20/21. The calculations in Appendix 8.1-B are not transparent.

Data Requests:

9.a. Please provide all "vendor data and engineering estimates" that support the emissions in Tables 8.1-15 to 8.1-19 to the extent not otherwise included in Appendix 8.1-B.

9.b. Please identify all assumptions underlying the emission estimates in Tables 8.1-15 to 8.1-19.

9.c. Please provide all supporting data for the information contained in Appendix 8.1-B in native format that discloses the calculations underlying the emissions in Table 8.1-15 to 8.1-19 and Appendix 8.1-B.

10. AIR QUALITY: BACT for CO

Background:

The Application assumes that BACT for CO is an emission limit of 4 ppmv at 15% oxygen, achieved using an oxidation catalyst. Ap., p. 2-20, 8.1-35. Much lower CO emission limits have been permitted and achieved in practice.

Data Requests:

10a. Please disclose the assumed averaging time for the CO BACT emission level and justify the choice.

10.b. Please explain the basis for selecting an emission limit of 4 ppmv for CO.

10.c. Please present a top down BACT analysis, consistent with the October 1990 NSR Manual published by the U.S. EPA], that supports a CO BACT level of 4 ppmv.

10.d. Please indicate whether the oxidation catalyst would be likely to comply with a CO limit of 1 ppmv at the stack.

11. AIR QUALITY: BACT for PM10

Background:

The Application states, with no support, that BACT for PM10 is best combustion practices and the use of gaseous fuels. Ap., p. 8-1.36. BACT requires the consideration of clean fuels. Refinery fuel gas, proposed to be used in the gas turbine and duct burners, is not clean when compared to natural gas due to elevated sulfur levels. The sulfur is converted into sulfate, which is converted into PM10 in the atmosphere.

Data Requests:

11.a. Please identify all "best combustion practices" that you claim to constitute BACT

11.b. Please present a top down BACT analysis for PM10.

11.c. Please explain why BACT for PM2.5 and PM10 is not the use of natural gas or LPG in both the gas turbine and duct burners

12. AIR QUALITY: BACT for PM2.5

Background:

The Application is silent as to BACT for PM2.5.

Data Requests:

12.a. Please present emission calculations for PM2.5.

12.b. Please present a top down BACT analysis for PM2.5.

13. AIR QUALITY: CO2 Mitigation

Background:

The Application is silent as to potential mitigation for CO2.

Data Requests:

13.a. Please present emission calculations for CO2.

13.b. Please present a list of all feasible mitigation for CO2 that could be implemented to reduce impacts to less than significant.

14. AIR QUALITY: Emission Reduction Credits

Background:

The Application states that emission reduction credits will be provided for PM10 at a ratio of 1.0 to 1.0 to offset the net increase in operational PM10 emissions, net relative to the Renewal Project. Ap., p. 8.1-36, Table 8.1-27. The Applicant does not identify the specific ERCs that will be tendered, but instead provides a list of potential certificates. Ap., p. 8.1-37, Table 8.1-28.

Further, the Application does not propose offsetting the Project's net increase in construction emissions.

Data Requests:

14.a. The proposed emission reduction credits all date to 1992-1993. Emission reduction credits must be surplus of all Clean Air Act requirements. Please explain why these certificates represent emission reductions that are surplus of all Clean Air Act requirements.

14.b. Please specifically identify which certificates will be tendered.

14.c. For each certificate that will be tendered as identified in subpart (b), please provide the complete supporting file that shows how the claimed reduction was calculated.

14.d. Please propose emission reduction credits to mitigate the net increase in construction emissions or identify all grounds for not offsetting the construction emissions.

14.e. Please explain why you are offsetting the increases in emissions of SO2 and PM10 with reductions from the Renewal Project and yet not considering other impacts from the Renewal Project in your application for an SPPE for the PPRP.

Dated: September 25, 2007 Respectfully submitted,

_____/s/_____

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Declaration of Service

I, Bonnie Heeley, declare that on September 25, 2007, I deposited copies of the attached CONTRA COSTA BUILDING AND CONSTRUCTION TRADES COUNCIL DATA REQUESTS – SET ONE via email or U.S. mail as follows:

Via U.S. Mail

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT
Attn: Docket No. 07-SPPE-1
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Via email:

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I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, California, on September 25, 2007.

_____/s/_____
Bonnie Heeley